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(71) Applicant:
HYNIX SEMICONDUCTOR INC.
(72) Inventor:
JUN, SEUNG JUN
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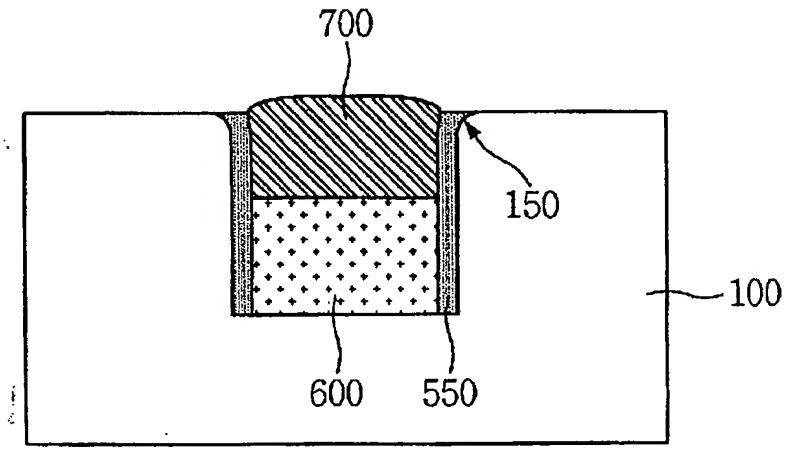
(54) Title of Invention
METHOD FOR FORMING ISOLATION LAYER OF SEMICONDUCTOR DEVICE

Representative drawing



(57) Abstract:

PURPOSE: A method for forming an isolation layer of a semiconductor device is provided to be capable of reducing junction leakage current and maintaining constantly breakdown voltage by filling a trench using SEG(Selective Epitaxial Growth).

CONSTITUTION: After sequentially forming a buffer oxide layer and a nitride layer on a semiconductor substrate(100), a trench is formed in the substrate. An under-cut is formed by selectively etching the buffer oxide layer. After rounding the top edges of the trench using hydrogen annealing, an oxide layer(150) is formed to fill the under-cut. An oxide spacer(550) is formed at inner walls of the trench by selectively etching the oxide layer. A silicon layer(600) is partially filled in the trench by using SEG. A gap-fill oxide layer (700) is entirely filled into the trench.

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